

**NORTH CAROLINA DIVISION OF
AIR QUALITY**

Air Permit Review

Permit Issue Date:

Region: Raleigh Regional Office
County: Wilson
NC Facility ID: 9800155
Inspector's Name: Will Wike
Date of Last Inspection: 03/17/2016
Compliance Code: 3 / Compliance - inspection

Facility Data Applicant (Facility's Name): Ardagh Glass Inc. Facility Address: Ardagh Glass Inc. 2201 Firestone Parkway Wilson, NC 27893 SIC: 3221 / Glass Containers NAICS: 327213 / Glass Container Manufacturing Facility Classification: Before: Title V After: Title V Fee Classification: Before: Title V After: Title V				Permit Applicability (this application only) SIP: NSPS: NESHAP: PSD: PSD Avoidance: NC Toxics: 112(r): Other:			
Contact Data				Application Data			
Facility Contact Chris Johnson EHS Manager (252) 234-5241 2201 Firestone Parkway Wilson, NC 27893	Authorized Contact Clifford Humphreys Plant Manager (252) 234-5225 2201 Firestone Parkway Wilson, NC 27893	Technical Contact Robert Metzger Environmental Engineer (765) 741-7116 1509 South Macedonia Avenue Muncie, IN 47307	Application Number: 9800155.15A Date Received: 07/06/2015 Application Type: Modification Application Schedule: TV-Significant Existing Permit Data Existing Permit Number: 03713/T35 Existing Permit Issue Date: 07/28/2015 Existing Permit Expiration Date: 10/31/2017				
Total Actual emissions in TONS/YEAR:							
CY	SO2	NOX	VOC	CO	PM10	Total HAP	Largest HAP
2014	177.35	181.65	13.55	11.72	119.69	4.88	2.99 [Hydrogen chloride (hydrochlori)]
2013	188.83	162.59	14.70	11.15	126.33	4.46	2.74 [Hydrogen chloride (hydrochlori)]
2012	185.17	160.62	13.71	16.03	104.54	4.29	2.57 [Hydrogen chloride (hydrochlori)]
2011	198.33	181.21	9.66	17.63	136.45	4.22	2.58 [Hydrogen chloride (hydrochlori)]
2010	205.38	214.73	12.15	21.02	148.28	4.74	2.58 [Hydrogen chloride (hydrochlori)]
Review Engineer: Joseph Voelker Review Engineer's Signature: Date:				Comments / Recommendations: Issue 03713/T36 Permit Issue Date: Permit Expiration Date:			

I. Introduction and Purpose of Application

Ardagh Glass Inc. (AGI) owns and operates a glass container production facility located in Wilson, North Carolina. AGI would like to address the following: *(the following text is from the application)*

Saint-Gobain Containers, Inc. (now AGI) agreed to a global consent decree (GCD) with EPA and several states, including North Carolina, and NCDENR, which was entered by the United States District Court for the Western District of Washington at Seattle on May 7, 2010. Paragraph IV.8.g.iii of the GCD requires that AGI submit a complete application to the state/local permitting authority by June 30, 2015, for two federally-enforceable SO₂ emission limits measured on a 30-day rolling average for each of the process-controlled furnaces listed in Table 4 of the GCD. One limit applies during times when the furnace is producing flint (clear) glass and the other limit applies when the furnace is producing colored (any other) glass. The Wilson Furnaces are process-controlled furnaces listed in Table 4 of the GCD. In addition, Paragraph IV.8.m of the GCD specifies that, for the Wilson Furnaces, the limits set forth or determined in accordance with Paragraph 8 shall be increased by 2.0 lb/ton when burning fuel oil. Under the GCD, the requested SO₂ emission limits apply beginning on the date of the permit application, except during periods specifically excluded as described in the application.

As required by the GCD, this application requests federally-enforceable SO₂ emission limits measured on a 30-day Rolling Average Emission Rate for the Wilson Furnaces.

This application will be processed pursuant to the significant modification procedures of 15A NCAC 2Q .0516.

II. Chronology

(Only critical path related events are presented)

Date	Description
07/06/2015	Application was received and assigned app. No. <u>9801155.15A</u> and deemed complete via acknowledgement letter.
04/13/2016	Preliminary draft permit submitted to the Permittee for review.
04/29/2016	Preliminary draft comments from the Permittee received via email.
MM/DD/YYYY	Draft permit published on NCDENR website for concurrent public and EPA review pursuant to TV-permitting requirements.
MM/DD/YYYY	Public comment period ended. No comments received.
MM/DD/YYYY	EPA review period ended. No comments received.

III. Modification Discussion/Regulatory Review

As mentioned in Section I above, Paragraph IV.8.g.iii of the GCD requires that AGI submit a complete application to the state/local permitting authority by June 30, 2015, for two federally-enforceable SO₂ emission limits measured on a 30-day rolling average for each of the furnaces at Wilson. One limit applies during times when the furnace is producing flint (clear) glass and the other limit applies when the furnace is producing colored (any other) glass.

Paragraph IV.8.g.iii also states that these limits shall apply during all Operating Days except during Furnace Startup, Maintenance of the Furnace, Malfunction of the Furnace, Color Transition, and Abnormally Low Production Rate Days. For these exception periods, Paragraph IV.8.g.iii also defines additional federally-enforceable SO₂ emission limits. Under the GCD, the requested SO₂ emission limits apply beginning on the date of the permit application, except during periods specifically excluded as described in Paragraph IV.8.g.iii. Hence, AGI had to comply with the emission limitations as of July 6, 2015.

AGI requests the following SO₂ emission limits. Pursuant to the GCD no proposed SO₂ limit can be higher than 2.5 pounds per ton of glass produced, determined as a 30-day rolling average. In addition, Paragraph IV.8.m of the GCD

specifies that, for the Wilson Furnaces, the limits set forth or determined in accordance with Paragraph 8 shall be increased by 2.0 lb/ton when burning fuel oil, and that no Furnace may combust fuel oil which has a sulfur content in excess of 0.5 percent, by weight. These limits will appear as follows in the revised air permit.

Table 2.2.A.3.a.

Furnace	Emission Limits (lbs SO ₂ /ton of glass produced, 30-day rolling average)			
	Flint (clear) glass		Colored (all other) Glass	
	Combusting natural gas	Combusting fuel oil	Combusting natural gas	Combusting fuel oil
Furnace # 28 (ID No. GF-1)	1.6	3.6	2.4	4.4
Furnace # 29 (ID No. GF-2)	1.6	3.6	2.4	4.4

- d. No Furnace may combust fuel oil which has a sulfur content in excess of 0.5 percent, by weight.

Note that the GCD allows compliance with the 30-day rolling average limits to be determined by averaging the emissions from both Furnaces subject to the same emission limit.

Note a number of terms are capitalized. These terms and some others as they will be used in the new permit condition (Section 2.2.A.3) that are defined in the Act or in federal regulations promulgated pursuant to the Act shall have the meanings assigned to them in the Act or such regulations, unless otherwise provided in the Consent Decree (Civil Action No. 2:10-cv-00121-TSZ) [Section 2.3 of this permit].

The limits during Furnace Startup, Maintenance of the Furnace, Malfunction of the Furnace, Color Transition, and Abnormally Low Production Rate Days are defined as follows: (*italicized language is the language as it appears in the GCD*)

1. *SO₂ Limit during Abnormally Low Production Rate Days – For any Abnormally Low Production Rate Day SGCI may elect to exclude the emissions generated during that Day from the Emission Rate 30-day Rolling Average. During these Days, a CEMS shall be used to demonstrate compliance on a 24-hour Block Average with the following pound per day limit:*

$$SO_{2\ 2nd\ Abn} = [Applicable\ Permit\ Limit] \frac{lb\ SO_2}{ton} \times \left[\frac{P}{0.35} \right]$$

Where:	
$SO_{2\ 2nd\ Abn}$ =	<i>SO₂ emission limit for a Furnace during an Abnormally Low Production Rate Day, in pounds per day.</i>
<i>Applicable Permit Limit</i>	<i>Applicable Permit Limit = This is the permit limit that SGCI receives for each Furnace listed in Table 4 under Paragraph 8.g.iii for Color or Flint, whichever is currently being melted, in lb SO₂ per ton of glass</i>
P =	<i>Furnace-specific production threshold as defined in Paragraph 10, in tons of glass produced per day.</i>

The Applicable Permit Limit is shown in the Table 2.2.A.3.a. The Furnace-specific production threshold is defined in Paragraph IV.10 of the GCD as follows:

10. *Abnormally Low Production Rate Days - The following values shall be used to determine Abnormally Low Production Rate Days for each Furnace.*

Table 6 – Abnormally Low Production Rate Day Thresholds	
Facility and Furnace	Abnormally Low Production Rate Day Threshold * (tons/day)
Wilson, NC – Furnace #28	193
Wilson, NC – Furnace #29	175

* Unless capacity subsequently increases as authorized by a revised permit limit. If production is increased by a Permit, the Abnormally Low Production Rate Day Threshold would be 35 percent of the new permitted production (or design production, where there is no permitted production) as determined on a daily basis (for the purpose of defining the Abnormally Low Production Rate Day Threshold).

Note that the threshold for GF-1 of 193 tpd applied at the time of the GCD issuance when the permitted production rate was 550 tpd. The permitted production capacity has been revised since then to 565 tpd. Thus the Furnace-specific production threshold should be revised to 198 tpd.

The SO₂ Limits during Abnormally Low Production Rate Days will appear in the revised permit as follows:

Table 2.2.A.3.a.1

Furnace	Abnormally Low Production Rate Threshold, (tons of glass produced per day)	Emission Limits During Abnormally Low Production Rate Days (lbs SO₂/day of glass produced, 24-hour block average)			
		Flint (clear) Glass		Colored (all other) Glass	
		Combusting natural gas	Combusting fuel oil	Combusting natural gas	Combusting fuel oil
Furnace # 28 (ID No. GF-1)	198	904	2034	1356	2486
Furnace # 29 (ID No. GF-2)	175	800	1800	1200	2200

2. SO₂ limit during Furnace Startup – the Permittee shall comply with the following operational limit to limit SO₂ emissions during all phases of Furnace Startup:
 - a. During the startup period, the Permittee will limit the amount of sulfur added to the batch materials to 2.6 pounds per ton of total batch material (including cullet) or less.

This is straightforward. This will be tracked through recordkeeping that is also required (more discussion below).

3. SO₂ limit during Malfunction of the Furnace – For any Operating Day where a Malfunction of the Furnace occurs for any period of time, the Permittee may elect to exclude the emissions generated during that Operating Day (or Operating Days if the event covers more than one Operating Day) from the Emission Rate 30-day Rolling Average. During the Malfunction Days excluded from the Emission Rate 30-day Rolling Average, a CEMS shall be used to demonstrate compliance on a 24-hour Block Average with the following pound per day limits:

$$SO_{2\ 2nd\ Malf} = 3 \times 2.5 \frac{lb\ SO_2}{ton} \times \left[\frac{P}{0.35} \right]$$

Where:	
$SO_{2\ 2nd\ Malf}$ =	SO ₂ emission limit for a Furnace during a Malfunction Day, in pounds per day.
P =	Furnace-specific production threshold as defined in Paragraph 10 in tons of glass produced per day.

Using the applicable values of P shown in Table 2.2.A.3.a.1 above the Emission Limits During Malfunction Days will appear in the revised permit as follows:

Table 2.2.A.3.a.3

Furnace	Emission Limits During Malfunction Days (lbs SO ₂ /day of glass produced, 24-hour block average)	
	All Glass	
	Combusting natural gas	Combusting fuel oil
Furnace # 28 (ID No. GF-1)	4,238	7,628
Furnace # 29 (ID No. GF-2)	3,750	6,750

- 4 *SO₂ limit during Maintenance* – For any Operating Day where Maintenance activities on the Furnace are performed, SGCI may elect to exclude the Maintenance Day from the Emission Rate 30-day Rolling Average. For any Day which is excluded from the 30-day rolling average, a CEMS shall be used to demonstrate compliance on a 24-hour Block Average with the following pound per day limit:

$$SO_{2\ 2nd\ Maint} = \frac{MH \times [3 \times 2.5 \frac{lb\ SO_2}{ton} \times [\frac{P}{0.95}]]}{24} + \frac{NH \times [\frac{P}{0.95}] \times [App\ Limit] \frac{lb\ SO_2}{ton}}{24}$$

Where:	
$SO_{2\ 2nd\ Maint}$	SO ₂ interim emission limit for a Furnace during a Maintenance Day, in pounds per day.
P=	Furnace-specific production threshold as defined in Paragraph 10 in tons of glass produced per day.
MH =	Hours of Maintenance
NH =	Normal Hours = 24 – MH
App Limit=	This is the permit limit that SGCI receives for each Furnace listed in Table 4 under Paragraph 8.g.iii for Color or Flint, whichever is currently being melted, in lb SO ₂ per ton of glass.

Using the applicable values of P and App Limit shown in Table 2.2.A.3.a.1 above the Emission Limits During Maintenance Days will appear in the revised permit as follows:

Table 2.2.A.3.a.4

Furnace	Emission Limits During Maintenance Days (lbs SO ₂ /day of glass produced, 24-hour block average)			
	Flint (clear) Glass		Colored (all other) Glass	
	Combusting natural gas	Combusting fuel oil	Combusting natural gas	Combusting fuel oil
Furnace # 28 (ID No. GF-1)	$MH * 177 + NH * 38$	$MH * 318 + NH * 85$	$MH * 318 + NH * 57$	$MH * 177 + NH * 104$
Furnace # 29 (ID No. GF-2)	$MH * 156 + NH * 33$	$MH * 281 + NH * 75$	$MH * 281 + NH * 50$	$MH * 156 + NH * 92$

Where:

MH = Hours of Maintenance

NH = Normal Hours = 24 – MH

5. *SO₂ limit during Color Transition – For any Operating Days during which a Color Transition is occurring SGC may elect to exclude the emissions on such Days from the Emission Rate 30-day Rolling Average. During these Days, a CEMS shall be used to demonstrate compliance on a 24-hour Block Average with the following pound per day limit:*

$$SO_{2 \text{ 2nd Col Tran}} = 2 \times 2.5 \frac{\text{lb } SO_2}{\text{ton}} \times \left[\frac{P}{0.35} \right]$$

Where:	
$SO_{2 \text{ 2nd Col Tran}} =$	SO ₂ interim emission limit for a Furnace during a Color Transition, in pounds per day.
$P =$	Furnace-specific production threshold as defined in Paragraph 10 in tons of glass produced per day.

Using the applicable values of P shown in Table 2.2.A.3.a.1 above the Emission Limits During Color Transition Days will appear in the revised permit as follows:

Table 2.2.A.3.a.5

Furnace	Emission Limits During Color Transition Days (lbs SO ₂ /day of glass produced, 24-hour block average)	
	Combusting natural gas	Combusting fuel oil
Furnace # 28 (ID No. GF-1)	2,825	5,085
Furnace # 29 (ID No. GF-2)	2,500	4,500

Monitoring recordkeeping and reporting

The GCD is specific with respect to the monitoring recordkeeping and reporting that is required. In summary, CEMs will be used to measure ppm concentrations of SO₂ in each melter stack. The ppm values in conjunction with an EPA approved method of measuring flowrate will be used to convert the ppm values into the appropriate mass emission rate units. Records must be maintained and annual reporting is required. The NC DAQ, consistent with other NSPS affected sources that use CEMs also requires AGI to submit quarterly excess emissions and monitoring system performance summary reports. The reports shall contain the information required per 40 CFR 60.7(c) and (d). The Permittee has had these systems in operation for a few years now, since they were also used to comply with the annual SO₂ limits imposed by the GCD pursuant to Section IV.8.g.v.

The monitoring recordkeeping and reporting requirements will appear in the revised permit as follows:

Monitoring/Recordkeeping

- e. The Permittee shall install, calibrate, certify, maintain, and operate the SO₂ CEMS pursuant to Section 2.3.I.15.c.
- f. The Permittee shall comply with all the requirements and determine SO₂ emissions pursuant to Section 2.3.I.15.d.
- g. The Permittee shall comply with the CEMS Certification Event requirements pursuant to Section 2.3.I.8.h.
- h. The Permittee shall comply with the recordkeeping requirements found in Section 2.3.I.8.j and k.

Reporting

- i. The Permittee shall comply with the reporting requirements found in Sections 2.3.I.35 through 40 and Section 2.3.II.

Each of the above requirements reference Section 2.3, which contains all the GCD language relevant to the Wilson facility. When AGI (Saint Gobain at the time of the GCD issuance) became subject to the GCD, it was decided to incorporate the GCD into the air permit with minimal changes to the language to ensure compliance over time. As milestones were met, italicized language was added to indicate as such instead of removing the language. To minimize duplication within the permit, cross-referencing to Section 2.3 will be made instead of wholesale duplication.

The GCD specifically requires the Permittee to “submit a complete application to the state/local permitting authority by June 30, 2015, for two federally-enforceable SO₂ emission limits.” Generally all permit conditions in a Title V permit are both state and federal enforceable unless indicated otherwise. Since the DAQ incorporated the GCD into the air permit as state-enforceable only and to add clarity, the following indicator will be added to the new permit condition:

STATE AND FEDERAL-ENFORCEABLE

IV. Facility Compliance Status

During the most recent inspection conducted on March 17, 2016 by Mr. Will Wike of the Raleigh Regional Office (RRO), the facility appeared to be in compliance with all applicable requirements.

V. NSPS, NESHAP, PSD and CAM Applicability

NESHAP (MACT), NSPS and PSD

This modification has no implications with respect to NSPS, NESHAP, MACT or PSD regulatory programs.

CAM

The modifications addressed in this review have no implications with respect to CAM.

VI. Changes to the existing permit no. T35

Existing Condition No.	New Condition No.	Changes
Cover Letter	Same	<ul style="list-style-type: none"> Used current shell language, updated permit numbers, dates, etc.
Permit, page 1	Same	<ul style="list-style-type: none"> Revised dates, permit numbers, etc. using current shell standards
Global	Same	<ul style="list-style-type: none"> Updated regulation references from “2D” and “2Q” to “02D” and “02Q” to be consistent with regulation nomenclature.
2.1.C.3.n.	same	<ul style="list-style-type: none"> Removed the following requirement as it has already been satisfied: “The Permittee shall install a closed crankcase ventilation system that prevents crankcase emissions from being emitted to the atmosphere.”
2.2.A.1	2.2.A.2	<ul style="list-style-type: none"> Simple renumbering at the request of Permittee
2.2.A.2.	2.2.A.1	<ul style="list-style-type: none"> Simple renumbering at the request of Permittee

Existing Condition No.	New Condition No.	Changes
NA	2.2.A.3	<ul style="list-style-type: none"> Added a federally enforceable permit condition pursuant to Section IV, paragraph 8.g of the Consent Decree in the matter of <i>United States v. Saint-Gobain Containers, Inc.</i> (Civil Action No. 2:10-cv-00121-TSZ) relating to alleged violations of the Clean Air Act.
Section 2.3 (Global Consent Decree)	Same	<ul style="list-style-type: none"> Added clarifying text to indicate which paragraphs of the Consent decree have been satisfied. Replaced all references to Saint Gobain (SGCI) with [AGI]
Section 3 General Conditions	Same	<ul style="list-style-type: none"> Section was revised form v.3.6 to current shell version 4.0 (12/17/2015). Only minor changes were made. Changes include: <ul style="list-style-type: none"> Updating regulation references from “2D” and “2Q” to “02D” and “02Q” to be consistent with regulation nomenclature. References to DENR were revised to DEQ

VII. Public Notice/EPA and Affected State(s) Review

(See chronology in Section II for actual dates)

A notice of the DRAFT Title V Permit will be made pursuant to 15A NCAC 2Q .0521. The notice will provide for a 30-day comment period, with an opportunity for a public hearing. Copies of the public notice will be sent (via email) to persons on the Title V mailing list and EPA. Pursuant to 15A NCAC 2Q .0522, a copy of each permit application, each proposed permit (via email) and each final permit shall be provided to EPA. Also pursuant to 2Q .0522, a notice of the DRAFT Title V Permit will be provided (via email) to each affected State at or before the time notice provided to the public under 2Q .0521 above. Pursuant to 15A NCAC 2Q .0518, the DAQ will not issue the final permit until EPA's 45-day review period has expired or until EPA has notified the Director that EPA will not object to issuance of the permit revision, whichever occurs first.

VIII. Recommendations

TBD